

REQUEST FOR RECONSIDERATION

Claims 1-20 remain active in this application.

The claimed invention is directed to an aqueous hair cleansing composition.

Applicants wish to thank examiner Channavajjala for the helpful and courteous discussion held with their U.S. representative on December 14, 2007. At that time, applicants' U.S. representative argued the failure of the cited references to disclose or suggest an improved foaming speed by selection of the sulfate alkoxylation distribution as claimed. The following is intended to expand upon the discussion with the examiner.

Aqueous hair cleansing compositions based on alkyl sulfate surfactants have been used based on their high detergency and foaming volume. While alkyl sulfate surfactants have some drawbacks in terms of causing hair friction, polyoxyethylene alkyl surfactants have become popular based upon good feel but typically exhibit reduced foaming properties. Accordingly, alkyl ether surfactants having good foaming properties are sought.

The claimed invention addresses the problem by providing a hair cleansing composition comprising an alkyl ether sulfate surfactant comprising 30-45 wt.% of the sulfate of formula 1 where $n=0$, 18-27 wt.% of the sulfate where $n=1$, and 10-20 wt.% of the sulfate where $n=2$, the balance where n is 3 or greater and **the sum of sulfates where $n=0-2$ is 70 wt.% or greater**. Applicants have discovered that such a distribution of alkyl ether sulfate surfactants provides for good foaming properties.

As evidence of the improved foaming speed and lubricity resulting from the claimed invention, the examiner's attention is directed to the data appearing in Table 2,

page 18 of the specification. For the examiner's convenience, a portion of the data is reproduced below.

Table 2

Component (wt.%)	Examples								Comparative Examples			
	1	2	3	4	5	6	7	8	1	2	3	4
Sulfate 1	10	15			10	12						
Sulfate 2			10	8								
Sulfate 3							12	15				
Comparative Sulfate 1									15			
Comparative Sulfate 2										10		
Comparative Sulfate 3											15	12
Laurylamidopropyl betaine				2							2	
Myristyl alcohol	1	1	1		1	1	1	1	1	1		1
Ethylene glycol distearate			2	2	2	3	3	3		2	2	3
Distearyl ether		2							2			
Behenyl alcohol	2		2		2					2		
Cationic hydroxyethyl cellulose	0.5		0.3		0.3	0.2	0.2	0.3		0.3		0.2
Cationic guar gum		0.5	0.2	0.5	0.2	0.3	0.3		0.5	0.2	0.5	0.3
Amino-modified silicone						0.1	0.1					0.1
Dimethicone (gum viscosity: 8 million mm ² /s, average particle size; 0.5 μm)						1.2	1.2	0.5				1.2
Malic acid	0.75	0.75	0.75	0.75	0.03	0.75	0.75	0.75	0.75	0.03	0.75	0.75
Sodium chloride						0.2						0.2
Purified water	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e	Balanc e
pH (when diluted to 20 times the weight with water, 25°C)	3.7	3.7	3.7	3.7	5.5	3.7	3.7	3.7	3.7	5.5	3.7	3.7
Foaming speed	A	A	A	A	A	A	A	A	B	B	D	D
Lubricity of foam	18	18	20	18	19	20	20	19	15	9	7	10
Luster and manageability	19	20	20	18	15	20	20	20	18	6	18	18

None of Comparative Examples 1-4 using comparative sulfates 1-3 meet the claim limitation 70 wt.% or greater of $n=0-2$ sulfates. Comparative sulfates 1-3 have an amount of $n=0-2$ sulfate ranging from 51.99 to 69.47%, amounts which are **less than 70 wt.%**. In each of these examples, the foaming speed was **greater than 100 seconds**.

In contrast, examples 1-8 using sulfates 1-3 in which the amount of $n=0-2$ sulfate ranged from 72.29 to 77.73, concentrations which exceed 70 wt.% all had a foaming speed of **less than 100 seconds**. Furthermore, the foams were judged at a high assessment of lubricity and luster and manageability. Thus, by selection of the distribution of the ethoxylation of an alkyl ether sulfate, applicants are able to obtain high foaming speed. Such a result in a hair cleansing composition is nowhere suggested in the cited prior art of record.

The rejection of claims 1-20 under the grounds of nonstatutory obviousness-type double patenting over claims 1-17 of U.S. 6,914,038 in view of EP 190,010 (EP '010) and U.S. 6,133,212 is respectfully traversed.

U.S. '038 fails to claim an aqueous hair cleansing composition comprising ethoxylated sulfate surfactants having an ethoxylation distribution as claimed. Claim 1 of U.S. '038 merely claims "an anionic surfactant having a sulfate group." There is no claim to any aspect of the surfactant to suggest either ethoxylation or an ethoxylation distribution as claimed.

Each of EP '010 and Elliott et al U.S. 6,133,212 have been cited to suggest the claimed features of ethoxylation and an ethoxylation distribution as claimed.

Neither reference suggests the claimed ethoxylation distribution or the claim limitation of an amount of ethoxylation where $n=0-2$ of at least 70 wt. %.

Elliott et al. describes at column 4, lines 26-30, a narrow range of ethoxylated alkyl sulphates having from 1 to about 6, preferably from about 2 to 4, and especially about 3 moles of ethylene oxide. The narrow range is described as improving skin mildness and product lather (column 4, lines 23-26). While the reference describes a goal of producing a foam which is stable and of high quality (column 1, lines 52-61) the reference reports the discovery of a composition which is mild and has beneficial rinsing characteristics (column 2, lines 7-11). There is no suggestion of increased foaming speed when the concentration of n=0-2 sulfate is at least 70 wt.%.

EP '010 merely describes a shampoo composition comprising a synthetic anionic surfactant of an alkyl sulfate or an ethylene oxide extended alkyl ether sulfate where the number of ethylene oxide units range from 1-10 (page 3, lines 20-25). Preferred compositions have an average degree of ethoxylation of from about 1-4 (page 4, lines 7-8) and specific examples contain 3-30 wt.% of sulfates where n=0, 45-90 wt.% of sulfates where n=1-4, 10-25 wt.% of sulfates where n=4-8 and 0.1-15 wt.% of sulfates where n is greater than 8 (page 4, lines 11-17). The reference is deficient in suggesting at least 70 wt.% of n=0-2 sulfate. In fact, by describing 10-25 wt.%, of n=4-8 and 0.1-15 wt. % of n >8, the reference suggests that it is possible to have at least 40 wt. % of ethoxylated sulfate where n is 4 or greater. Providing for an amount 40 wt. % of ethoxylated sulfate where n is 4 or greater fails to suggest ensuring an amount of sulfate of at least 70 wt. % where n=0-2.

As the references fail to disclose or suggest the claim limitation of at least 70 wt.% of all sulfates being n=0-2, the claimed invention is clearly not rendered obvious from the references and accordingly, withdrawal of the rejections under the judicially created doctrine of obviousness-type double patenting is respectfully requested.

The rejections of claims 1-20 under 35 U.S.C. § 103(a) over the combination of EP '010 and Elliott et al. and in view of over U.S. '038 are respectfully traversed.

None of the cited references disclose or suggest a distribution of ethoxylated sulfate surfactant where at least 70 wt. % is n=0-2 nor that such a distribution would yield a composition with a faster foaming speed. The deficiencies of EP '010 and Elliott et al. are described above.

In addition, applicants have already provided the evidence of an unexpected improvement in **foaming speed** through selection of a polyoxyethylene alkyl ether sulfate distribution as claimed.

The provisional rejection of claims 1-20 for non-statutory obviousness-type double patenting over claims 1-7 of co-pending application 11/313,740, now U.S. 7,307,050 is obviated by the enclosed terminal disclaimer disclaiming the terminal portion of any patent issuing from the above-identified application which would extend beyond the full statutory term of U.S. 7,307,050.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

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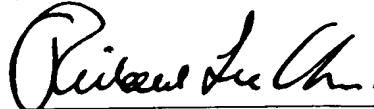
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